Pediatric Trauma Emergencies: Burns

I. All Provider Levels

1. Ensure safety and survey the scene to assess environmental conditions and mechanism of injury. If hazardous conditions are present (electrical hazard, chemicals, biological waste, confined space etc), contact the appropriate response agency before approaching the patient. If the patient requires extrication from a vehicle, contact the appropriate fire and/or rescue squad to extricate.

2. Follow standard body substance isolation precautions.

3. Form a general impression of the patient. Stop the burning process.

   A. If a dry chemical is involved, brush away as much of the chemical as possible, then flush with large amounts of water.

   B. If a caustic liquid is involved, flush with large amounts of water.

   C. For chemical burns with eye involvement, immediately begin flushing the eye with water.

   D. Remove patient's clothing before irrigation.
      i. Be prepared to treat hypothermia that may arise secondary to these interventions.
      ii. Continue flushing throughout assessment and, if possible, transport.

> ***Note Well:*** *Protect yourself. Wear protective gloves and eyewear.*

4. Establish patient responsiveness. Manually stabilize the spine if trauma is suspected.

5. Remove the patient's clothing and jewelry in any affected area.

I. All Provider Levels (continued)

6. Assess the patient's breathing including rate, auscultation, inspection, effort and adequacy of ventilation as indicated by chest rise.

   A. Obtain a pulse oximeter reading.

7. Open the airway using a head tilt/chin lift, if no spinal trauma is suspected.

   A. If trauma is suspected open the airway using a modified jaw thrust.

8. Consider placing an oropharyngeal or nasopharyngeal airway adjunct if the airway cannot be maintained with positioning or if the patient is unresponsive. Suction as necessary.

> ***Note Well:*** *The nasopharyngeal airway is contraindicated in the presence of facial trauma.*

9. If no breathing is present, then position the airway and start bag valve ventilations using 100% oxygen.

   A. Refer to the vital signs chart for appropriate rates.

Pediatric Trauma Emergencies: Burns

I. All Provider Levels (continued)

10. If airway cannot be maintained, begin ventilations with B-V-M and initiate advanced airway management using a combi-tube.

> ***Note Well:*** *Do not use a combi-tube on a patient younger than 16 years of age or less than 5-feet tall.*

> ***Note Well:*** *The EMT-I and EMT-P should use ET intubation.*

11. If breathing is adequate, place the child in a position of comfort and administer high flow, 100% oxygen.

    A. Use a non-rebreather or blow by as tolerated.

12. Check pulse. If no pulse is present, begin CPR

> ***Note Well:*** *If arrest is possibly medically related or secondary to electrical shock, attach AED and analyze rhythm.*

> ***Note Well:*** *Do not use an AED on a patient younger than 8 years of age or weighing less than 25kg (55 pounds)*

> ***Note Well:*** *EMT-I and EMT-P should use the monitor-defibrillator.*

> ***Note Well:*** *The EMT-I and EMT-P should follow the appropriate cardiac algorithm in addition to the guidelines in this protocol.*

Pediatric Trauma Emergencies: Burns

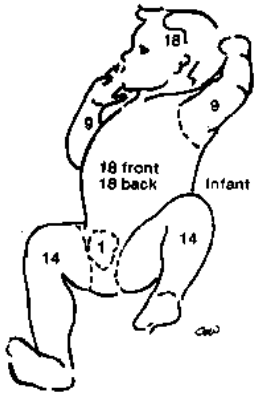
I. All Provider Levels (continued)

13. Determine degree and percentage of burn.

14. Call for ALS support. Initiate care and do not delay transport waiting for an ALS unit.

15. Inspect the chest wall for signs of trauma.

16. Complete a rapid trauma patient assessment including the neck, chest, abdomen, pelvis, legs, arms and back.



17. If there is evidence of shock, initiate IV access using an age-appropriate large bore catheter with large caliber tubing.

Note Well: *BLS Providers cannot start an IV on a patient less than eight years of age*

Note Well: *Do Not Delay Transport to Obtain IV Access.*

Note Well: *An ALS unit must be en route or on scene.*

Note Well: *If IV access cannot be readily established and the child is younger than 6 years of age then ALS Providers only may proceed with IO access. If the child is over 6 years of age, then contact Medical Control for IO access.*

II. Advanced Life Support Providers

1. Administer a fluid bolus of normal saline at 20ml/kg set to maximum flow rate.

   A. Reassess patient after a bolus.

   B. If signs of shock persist, bolus may be repeated at the same dose up to two times for a maximum total of 60 ml/kg.

2. Initiate cardiac monitoring and analyze rhythm if not previously done.

   A. Refer to cardiac protocols if a medical cause is suspected or if the burn was due to an electrical injury and follow the appropriate protocol.

3. If patient presents in severe pain, contact Medical Control to administer morphine at 0.1 mg/kg (maximum dose 10 mg)

III. Transport Decision

1. Contact medical control for additional instructions.

2. If spinal trauma is suspected, continue manual stabilization, place a rigid cervical collar, and immobilize the patient on a long backboard or similar device.

3. Apply a burn sheet or dry sterile dressings to burned areas.

   A. To prevent hypothermia, avoid moist or cool dressings and do not leave wounds or skin exposed.

4. Contact medical control for additional instructions.

5. Initiate transport to the nearest appropriate facility as soon as possible.

II. Transport Decision (continued)

A. **All patients under 15 years of age should be transported to Children's National Medical Center unless otherwise directed by medical control.**

6. Perform focused history and detailed physical exam en route to the hospital.

7. Reassess at least every 3-5 minutes, more frequently as necessary and possible.

IV. The Following Options are Available by Medical Control Only

1. IO access for patients greater than 6 years of age.

2. Morphine, 0.1 mg/kg to a maximum dose of 10 mg for pain.

Children's National Medical Center

This protocol was developed and revised by Children's National Medical Center, Center for Prehospital Pediatrics, Division of Emergency Medicine and Trauma Services, Washington, D.C.